Comments on a draft State Operating Permit for the Mirant Potomac River Power Plant for Friday 25 January 2008 public hearing.

The Agency for Toxic Substance and Disease Registry issued a Health Consultation for the River Terrace Community in Washington DC on November 13, 2007. River Terrace is a very poor community at the Potomac and Anacostia Rivers just north of Alexandria, Virginia. Section 3.7.2: Total Suspended Particulates, page 7, provides information about Site 41 located at the heart of the River Terrace Community. The Consultation also includes information, page 8, about Site 42 the most southerly in their study and the closest monitor site to the Mirant Potomac River Generating Station on the north. Monitor #42 is located at 1100 Ohio Drive, the address of the region's National Park Service offices. The Consultation states, "For 2003-2006, maximum PM2.5 levels at neither location [Sites 42 and 43] exceeded the PM2.5 24-hour average former NAAQS (65ug/m3), but Site 42 exceeded the current NAAQA (35ug/m3) for all four years. In addition, Site 42 exceeded the PM2.5 annual average NAAQS in 2005."

A stack merge causing pollutant emissions from the Mirant Potomac River Generating Station could go north and thus affect this 1100 Ohio Drive site or into the heart of the River Terrace Community, a possible environmental justice case. What about Arlington to the west of the Mirant Potomac River Generating Station?

The documents that Mirant filed on November 19, 2007 with the Virginia Department of Environmental Quality were said to include information about trona and whether or not trona causes an increase of PM2.5 in power plant emissions. The only document that I could find in Mirant's filings with the Virginia Department of Environmental Quality for the Potomac River Generating Station was a letter from Solvay Chemicals from a John Maziuk, the Technical Development Manager for the chemical company. His short letter dated May 18, 2007 provided no information about PM/PM2.5 and their product.

Mirant makes reference to a stack merge at their Potomac River Generating Station meeting current or future standards. Yet in the Draft MWAQC PM2.5 Annual SIP issued December 12, 2007 in Section 9.4.3 Local Area Analysis (page 9-24), "It is important to note that none of the PM2.5 monitors currently located at the PRGS meet the EPA siting criteria; therefore, these data cannot be directly used to evaluate the attainment status...." With this there appears to be no margin of safety let alone any accuracy that Mirant's references to meeting current or future standards with a stack merge could be so.

With no margin of safety for the locale or area locations that already have exceedances, how could a stack merge be acceptable. The proposed stack

merge creates a new source of pollution to these adjacent areas. Diminishing downwash adjacent to the Mirant Potomac River Generating Station very likely will create additional pollution at the neighboring regional locations to Alexandria.

Where and who will be the recipients of the Mirant Potomac River Generating Station pollution? The poor River Terrace Community? Arlington? What does the research show about trona and its effects on PM2.5? If the Potomac River Generating Station lacks properly sited monitors how can Mirant say that current or future standards will be met? There are too many unanswered questions to proceed to merge stacks at Mirant's Potomac River Generating Station.

Thank you for the opportunity to comment.

Julie Crenshaw Van Fleet

Julie Crenshaw Van Fleet
Metropolitan Washington Air Quality Public Advisory Committee since 1993

Enclosed
Health Consultation pages from ATSDR
Solvay Chemicals letter
Page 9-24 from Draft MWAQC PM2.5 Annual SIP

Health Consultation

RIVER TERRACE COMMUNITY

WASHINGTON, DISTRICT OF COLUMBIA

NOVEMBER 13, 2007

U.S. DEPARTMENT OF HEALTH AND HUMAN SERVICES
Public Health Service
Agency for Toxic Substances and Disease Registry
Division of Health Assessment and Consultation
Atlanta, Georgia 30333

When determining what environmental guideline value to use, ATSDR follows a general hierarchy. Hierarchy 1 includes ATSDR environmental guidelines such as CREGs and chronic EMEGs. In the absence of these values, Hierarchy 2 values (including ATSDR's reference dose media evaluation guides, or RMEGs), may be selected. When ATSDR environmental guidelines listed in the hierarchy are unavailable, those from other sources are considered (ATSDR 2005b).

ATSDR selects chemicals for further consideration if either (a) their maximum concentrations exceed a relevant CV, or (b) no CVs are listed for them. The following text provides the air data results.

3.7.1 Metals

ATSDR reviewed the results of the phase one and phase two ambient air data for metals. Table 2, Appendix B, provides a summary of the metals detected in ambient air. These metals are antimony, barium, copper, and nickel. For each metal detected, the table shows the range of concentrations and the relevant CV. Overall, of the four metals detected, none were above health-based CVs.

3.7.2 Total Suspended Particulates

ATSDR reviewed the reported results for the phase one and phase two particulate matter, ambient air data in the one form available—total suspended particulates (TSP).[3] TSP levels ranged from not-detected to 50 $\mu g/m^3$ (EPA 2004b; EPA 2005c; TechLaw 2006). ATSDR does not have any CVs for TSP. Before 1987, EPA had health-based standards for ambient air concentrations of TSP. Today, however, EPA has standards for only PM_{10} and $PM_{2.5}$. The levels reported during the phase one and phase two air sampling events are below EPA's former 24-hour average National Ambient Air Quality Standard (NAAQS) TSP standard of 260 $\mu g/m^3$ and below EPA's former annual average NAAQS TSP standard of 75 $\mu g/m^3$.

That said, although the levels are below EPA's former TSP standards, current scientific opinion is that TSP measurements are not as good an indicator of potential long- or short-term health effects as are $PM_{2.5}$ measurements. Unfortunately, to know what levels of $PM_{2.5}$ were associated with the TSP levels measured during the two sampling events is not possible—unless the latter had been broken down by particle size fractions.

Still, an evaluation of the levels of $PM_{2.5}$ detected from 1999–2002 can be found in ATSDR's River Terrace Community PHA (ATSDR 2005a). At Site 41 in the River Terrace community, ATSDR found that the $PM_{2.5}$ annual average had been above its NAAQS (15 $\mu g/m^3$) for all four years. At that time, the $PM_{2.5}$ 24-hour average also exceeded its NAAQS (65 $\mu g/m^3$) once in 1999 (72.2 $\mu g/m^3$) and twice in 2000 (94.1 $\mu g/m^3$ and 100.2 $\mu g/m^3$).[4]

To determine whether $PM_{2.5}$ levels remain elevated in River Terrace, ATSDR downloaded from the AirData Web site available $PM_{2.5}$ data for Site 41 for the years 2003–2006 (EPA 2007b). The maximum $PM_{2.5}$ 24-hour average at Site 41 was above the former 65 $\mu g/m^3$ NAAQS once in 2006. With regard to the current $PM_{2.5}$ 24-hour average NAAQS (35 $\mu g/m^3$), maximum levels exceeded the standard for all four years. In addition, the $PM_{2.5}$ annual average was above its NAAQS in 2005. Table 3, Appendix B, contains these data.

[3] The other forms of particulate matter that can be measured are particulate matter less than 10 microns in diameter (PM_{10}) and particulate matter less than 2.5 microns in diameter ($PM_{2.5}$).

[4] EPA recently lowered the $PM_{2.5}$ 24-hour standard to 35 $\mu g/m^3$ (effective December 17, 2006).

SOLVAY CHEMICALS

May 18, 2007

To: David Cramer

The use of trona for acid gas mitigation by injecting it as a fine powder into hot flue gases from coal fired boiler began in 1977 as part of a DOE study with Public Service of Colorado at their Cameo station. A coarse grade of trona was milled on site. After many years of evaluation they installed a full scale unit in 1989 at their Cherokee Station. Today Xcel (PSC) use Solvay's Solvair Select 200 (a fine powder material) at the Denver Cherokee and Arapahoe Stations for SO_2 control. The injection is prior to their baghouse at a temperature of approximately 325°F. The systems treat 4 boilers total. They have been using our trona sorbent since 1989.

In the summer of 2001 Golden Valley Electric converted from hydrated lime to Solvair Select 200 at their Helay, AK plant. The injection point is at the same relative place and temperature prior to their baghouse as Xcels.

The amount of acid gas mitigation possible at these sites is a manner of how much trona they add for a given SO_2 emission. The higher their ratio of trona to SO_2 (the Normalized Stoichiometric Ratio – NSR) the greater the SO_2 reduction. Both power companies mill our Select 200 to improve its utilization. The plants are regulated for a total annual SO_2 emission rate in tons per year. On average the plants will mitigate 45-50% of their uncontrolled SO_2 emissions. All boilers use a low sulfur coal. GVEA's mine is down the road from their plant in Alaska.

Solvay has been the only supplier of mechanically refined trona for this market for almost twenty years. We understand that FMC now makes a recrystalized sodium sesquicarbonate. Sodium sesquicarbonate is the chemical name for trona ore. This material is much coarser than our Select 200.

We expanded our plant by 240 ktpy last year to 320 ktpy to meet the increasing demand for this product in the flue gas market for the emission control of acid gases by dry sorbent injection. The market spans many other industries as well as other acid gases such as SO_3, HCl, NO_x and HF with hot and cold side ESP and baghouses for APC of the particulate.

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